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Remarks

This Application is in final rejection. As such, amendment of claims is by re-casting existing claims by combining claims while retaining the same scope, canceling claims to simplify issues for appeal, or with the Examiner's approval. Entry of the above-noted amendments, reconsideration of the application, and allowance of all claims pending are respectfully requested. By this amendment: claims 1, 6, and 39 are amended; claims 2-5 and 18-38 are canceled; and 7, 8, 9 and 40 are unchanged. Claim 1 has absorbed claim 5 and thus has the same elements and limitations of previous claim 5, and has an identical scope. Claim 6 used to depend from claim 5 but now it depends from claim 1. Since claim 1 now has the elements and limitations of claim 5, the scope of claim 6 is exactly the same as before this amendment. Claim 39 has absorbed base claim 1 with the language of the previous amendment. Thus the scope of claim 39 is exactly the same after this amendment as before it. Claims 7, 8, 9 are not amended, but their scope has been limited with the amendments to claim 1. Claims 10-17 and 40 are unchanged from the previous amendment. It is submitted that these amendments do not require a new search because the claims are of the same scope or narrower.

These amendments to the claims constitute a bona fide attempt by applicant to advance prosecution of the application and obtain allowance of certain claims, and are in no way meant to acquiesce to the substance of the rejections.

Claim Rejections - 35 U.S.C. §102:

Claims 18, 19, 28 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Chellali (U.S. Pat. No. 6,201,830 B1). Cancellation of these claims makes this rejection moot.

Claims 10, 12, 30, 31 and 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Mueller. The rejection of canceled claims 30, 31 and 36-38 makes the question of patentability moot.

The rejection reads: Regarding claim 10, Mueller teaches (figure 6) a system for routing data transmitted over a subscriber line that couples a communication interface and an interface circuit comprising: a pilot circuit transmitter for transmitting a pilot signal to the communication interface; a crosspoint circuit for receiving a wake up signal (Mueller's exit symbol is read to mean the same as a wake-up signal since it is sent when a change from idle to active has occurred, column 4, lines 40-45) in response to the pilot signal from the interface circuit; and a controller for determining a route of the wake-up signal and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route (columns 2, lines 35-column 3, line 33).

First, figure 6 of Mueller is a flow chart, so it is a software system. Applicant's claim 10 is a hardware and software type of system. The only apparatus system element implied by Mueller figure 6 is a processor/controller/ALU device which executes the logical steps. This rejection cites Mueller column 2 line 35 to column 3 line 33 for the remaining elements of Applicant's claim 10. Of the passage cited, the pertinent part reads: [D]uring idle mode, the teleco system modem processor speed may be significantly reduced and modem sections may be powered down. Furthermore, the teleco system DSP modems may be time shared across multiple links while some links are idle. (column 2 lines 63 to 67).

Claim 10 reads:

A system for routing data transmitted over a digital subscriber line
that couples a communication interface and an interface circuit comprising:

a pilot circuit transmitter for transmitting a pilot signal to the communication interface;

a crosspoint circuit for receiving a wake-up signal in response to the pilot signal from the interface circuit; and

a controller for determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route.

Contrary to point 31 of the final rejection, there is no disclosure in Mueller of a crosspoint circuit and a controller for determining a route for a wake-up signal over the digital subscriber line or transmitting the wake-up signal in accordance with the route. All that is disclosed by Mueller and figure 6 is: "the teleco system DSP modems may be time shared across multiple links while some links are idle." That vague language in Mueller does not equate to an anticipation of the crosspoint circuit and the controller for determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route. As MPEP 706.02(a) says: For anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention **either explicitly or impliedly**. Any feature not directly taught must be **inherently present**. Time sharing modem across multiple links is not explicitly a crosspoint circuit. Time sharing modems across multiple links could be done any number of ways, such as token ring arrangements, ethernet packet arrangements, internet protocol with transmission control protocol, polling, time slot interchanger arrangements, crosspoint circuits and others. There are so many types and ways to do timesharing with modems and links that if the disclosure of Mueller implies a crosspoint circuit, Mueller also implies all the other arrangements that do time sharing. Therefore, time

shared modems do not imply any specific time multiplexing arrangement or process. Similarly, since there are many time sharing arrangements and methods, one of the arrangements is no more inherent than another of the time sharing arrangements.

The "controller for determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route" element is not explicitly shown in figure 6 of Mueller. Some type of controller/processor is implied by the logical steps of figure 6, but a controller for **determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal**. As mentioned above, all Mueller discloses is "time shared modem across multiple links" and just like there are many ways to time share modems, there are many ways that such routing can be determined. Therefore, Mueller does not impliedly disclose an element like "a controller for determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route" than it has for a controller performing self routing packet system (as with internet protocol packets).

It is respectfully submitted that Mueller does not explicitly, implicitly or inherently disclose two elements of Applicant's claim 10 and therefore claim 10 is not anticipated by Mueller.

The rejection continues: Regarding claims 12, Mueller teaches (figure 6) a data branch for switching data communications between the communications interface and the circuit; and the controller connects the crosspoint circuit to transmit the wake-up signal to data branch to establish the data communications.

Claim 12 reads:

The system as recited in claim 10 comprising:

a data branch for providing data communications between the communication interface and the interface circuit; and

wherein the controller instructs the crosspoint circuit to transmit the wake-up signal to the data branch to establish the data communications between the communications interface and the interface circuit.

Which of the eight blocks of figure 6 discloses a data branch? The receive idle request, the send idle reply, the receive symbol, the determine if received is modulated idle symbol, the remain in idle state (when yes), the determine if received symbol is the exit symbol (when no), the indicate error (when no), or the exit idle state (when yes)? Surely, neither of the determining steps 606 or 610 is considered a branch element because there is a logical "branch" operation being performed. The data branch of claim 12 and the data branch disclosed in Applicant's FIG.2 and page 7 lines 5-7 are essentially data channels, not logical operations. Page 6 lines 25 and 26 even disclose communication channels 150 and 152 that carry inbound and outbound data to the data branch, which includes XDSL transmitters 172, 174 and XDSL receivers 164 and 166 as disclosed on page 7, lines 5-6. Not one step of the process of figure 6 discloses anything like the data branch element of Applicant's claim 12. Therefore, claim 12 is not anticipated by Mueller.

Furthermore, since claim 12 depends from claim 10, which has been shown previously to have a crosspoint circuit element and a controller routing element that are not shown in Mueller. Therefore, claim 12 is not anticipated by Mueller for the same reasons that claim 10 is not anticipated.

Regarding claim 39 (including base claim 1) is:

A system for providing data communications between a first digital subscriber line data device and a network switch comprising:

a pilot branch for communicating with the first digital subscriber line data device via pilot signals when the first digital subscriber line data device is in a sleep mode;

a data branch for providing data communications between the first digital subscriber line data device and the network switch when the first digital subscriber line data device is active;

a controller circuit for monitoring the pilot signals and for switching the first digital subscriber line data device from the pilot branch to the data branch when the first digital subscriber line data device becomes active based on the pilot signals;

wherein the first digital subscriber line data device employs the pilot branch only while in the sleep mode; and

wherein the first digital subscriber line data device employs the data branch only while in the active mode.

First of all, this is a very irregular way of rejecting claim 39 for anticipation because of Mueller, since former claim 1, from which claim 39 depended, is not listed as being anticipated by Mueller. This probably was an oversight. If claim 39 had depended from claim 10, as claim 40 does, everything would be proper as to form of rejection.

Claim 39 is a system claim, which lists elements and how they interact to achieve a desired result. Mueller figure 6 is a flow/logic chart. As stated above with respect to claim 10, figure 6 does not explicitly teach a pilot branch (physically) or a data branch (physically) for communicating data. Figure 6 does not teach a pilot branch or a data branch by implication. Figure 6 does not inherently have a pilot branch and a data branch just process steps. The pilot branch function and the data branch could be provided by the same logical device that does not have separate branches. Figure 6 does teach by implication or inherency a controller of some kind to provide the two logical determination operations (606 and 610). But, any inherent controller of figure 6 would not have a controller-for-monitoring-the-pilot-signals-and-switching-the first digital subscriber line data device from the pilot branch to the data branch since neither branch is taught by figure 6. Thus, it is respectfully submitted that claim 39 is not anticipated by Mueller figure 6.

The rejection continues: Regarding claim 40, Mueller teaches (figure 6) the pilot circuit transmits the pilot signal only while in sleep mode.

Claim 40 (including base claim 10) is:

A system for routing data transmitted over a digital subscriber line that couples a communication interface and an interface circuit comprising:

a pilot circuit transmitter for transmitting a pilot signal to the communication interface;

a crosspoint circuit for receiving a wake-up signal in response to the pilot signal from the interface circuit; and

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a controller for determining a route of the wake-up signal over the digital subscriber line and for instructing the crosspoint circuit to transmit the wake-up signal in accordance with the determined route;

wherein the pilot circuit transmitter transmits the pilot signal to the communication interface only while the communication interface is in a sleep mode

Claim 40 depends directly on claim 10 and is not anticipated by Mueller for the same reasons.

Additionally, while some general transmitting device and some general receiving device are strongly implied by blocks 600, 602 and 604, the pilot circuit receivers and pilot circuit transmitters are not taught explicitly or implicitly from figure 6 of Mueller. Nor are pilot branch receivers and transmitters inherent taught, since a system with one circuit acting as both the pilot circuit and the data circuit is a very real alternative architecture. One example of this is a single bus computer. Without teaching a pilot circuit, it is impossible to have "the pilot circuit transmitter transmit[s] the pilot signal to the communication interface only while the communication interface is in a sleep mode." Therefore, it is respectfully submitted that the invention of claim 40 is shown to be not anticipated by figure 6 of Mueller by its own characterizations.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1-9, 11, 13-17, 20-27, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chellali (U.S. 6,201,830 B1) in view of Mueller (U.S. 6,052,411). Claims 2-4, 20-27, and 32-35 are canceled and the issue of their patentability is moot.

The rejection continues: Regarding claims 1, Chellali teaches (figure 4) a system for providing data communications between a first DSL data device and a network switch comprising: a pilot branch for communicating with the first data device via pilot signals when the data device is in a sleep mode (column 4, lines 26-53); a data branch for providing data communications between the first data device and the network switch when the first data device is active (column 4, lines 54-67). Chellali does not teach a controller circuit for monitoring the pilot signals and for switching the first DSL data device from the pilot branch to the data branch when the first DSL data device becomes active based on the pilot signal.

Mueller teaches a controller circuit for monitoring the pilot signals and for switching the first DSL data device from the pilot branch to the data branch when the first DSL data device becomes active based on the pilot signal (figure 6). It would have been obvious to one of ordinary skill in this art to adapt to Chellali's system Mueller's monitoring circuit for detecting active status of the DSL data device using pilot signals to maintain a synchronous system.

The issue is moot because of the amendment of claim 1 to be the same as the previous claim 5. Claim 1 (as amended) reads:

A system for providing data communications between a first digital subscriber line data device and a network switch comprising:

a pilot branch for communicating with the first digital subscriber line data device via pilot signals when the first digital subscriber line data device is in a sleep mode;

a data branch for providing data communications between the first digital subscriber line data device and the network switch when the first digital subscriber line data device is active; and

a controller circuit for monitoring the pilot signals and for switching the first digital subscriber line data device from the pilot branch to the data branch when the first digital subscriber line data device becomes active based on the pilot signals;

wherein the controller circuit comprises a crosspoint device for switching the first digital subscriber line data device from the pilot branch to the data branch and for switching a second digital subscriber line data device from the data branch to the pilot branch when the first digital subscriber line data device is switched from the pilot branch to the data branch in response to the controller, and

wherein the controller circuit monitors operation of the second digital subscriber line data device and, based on the monitored operation, instructs the crosspoint device to switch the second digital subscriber line data device.

Since neither Chellali nor Mueller teaches or suggests a crosspoint switch or a controller for a crosspoint switch, it is respectfully submitted that amended claim 1 (former claim 5) is not obvious from Chellali in view of Mueller.

Further, since claims 6-9 depend from non-obvious claim 1, they are likewise submitted to be non-obvious for the same reasons.

Like amended claim 1, claim 10 has a crosspoint circuit, which neither Chellali nor Mueller teach or suggest. Therefore it is respectfully submitted that that claim 10 is non-obvious from Chellali in view of Muller, by the same reasoning as that about claim 1. Because claim 10 is non-obvious, it is respectfully submitted that dependent claims 11-17 and 40 are non-obvious for the same reasons as base claim 10.

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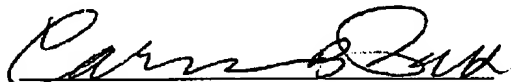
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For all the above reasons, independent claims 1, 10 and 39 presented herewith are believed neither anticipated nor obvious over the art of the record. The dependent claims 6-9, 11-17, and 40 are believed allowable for the same reasons as the independent claims 1, 10, and 39, as well as for their own additional characterizations.

Withdrawal of the §102 and §103 rejections is therefore respectfully requested.

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicant's attorney.

Respectfully submitted,



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Dated: June 14, 2004

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